

REMARKS

In the present amendment, claims 1 and 2 have been amended, and claims 4 and 5 are newly added. Claims 1-5 are pending. Applicants respectfully request reconsideration and allowance of this application in view of the following remarks.

Claims 1 & 2 Rejection – 35 U.S.C. § 103(a)

The Examiner rejected claims 1 and 2 under 35 U.S.C. § 103(a) as being unpatentable over Aoyama (JP 1-125345) in view of Xie (US 6,503,620).

Applicants respectfully request that this rejection be withdrawn for the following reasons.

Claims 1 and 2 recite, *inter alia*, a pressure-sensitive adhesive sheet that includes a base material and a pressure-sensitive adhesive layer formed with a plurality of density-specific holes passing through the surfaces. Claims 1 and 2 include values for maximum temperature (claim 1 only), hole diameter, hole density, storage modulus, and loss tangent. Claims 1 and 2 were amended above to further define so that the diameter of said through holes at the pressure-sensitive adhesive sheet front surface is not more than 40 μm (Spec. p. 10, ll. 8 – 17).

The Examiner admitted that Aoyama does not teach a pressure-sensitive adhesive layer having a storage modulus T_{max} (wherein $20\text{ }^{\circ}\text{C} \leq T_{\text{max}} \leq 130\text{ }^{\circ}\text{C}$) of

not less than 4.5×10^3 Pa, and a loss tangent at T_{\max} of not more than 0.78, as presently claimed. However, the Examiner cited the teachings of Xie as rectifying these deficiencies in the teachings of Aoyama.

When alleging that it would have been obvious to apply the storage modulus and loss tangent of Xie to Aoyama, the Examiner stated that, “One of ordinary skill in the art would have been motivated to reduce adhesive flow and bleed from label edges and maintain integrity at elevated temperatures” – citing Xie at column 27, line 63 to column 28, line 2. However, Applicants respectfully submit that one of ordinary skill in the art would not take such a position or make such a substitution.

While Xie discusses “adhesive flow and bleed from the label edges is not favorable” (col. 27, l. 63 – col. 28, l. 2), the teachings of Xie are concerned with laser printing technology and not a pressure-sensitive adhesive sheet having through holes with a size and density as presently claimed. A pressure-sensitive adhesive sheet that has a certain number of through holes cannot be used for laser printing. If laser printing is applied to a pressure-sensitive adhesive sheet having a number of through holes (such as the number required in the present claims), the through holes become filled with toner material during the laser printing. Such an adhesive layer with toner-filled through holes cannot achieve the advantages of the presently claimed invention. In other words, the combined adhesive sheet of

Aoyama and Xie, as alleged by the Examiner, cannot prevent air entrapment by air escaping from the through holes, which is achieved by the presently claimed invention. Accordingly, the teachings of Aoyama and Xie either teach away from the presently claimed invention, or the teachings of Aoyama destroy the teachings of Xie, or *vice versa*.

Along these lines, Applicants respectfully submit that one of ordinary skill in the art would have no reason or motivation to apply the teachings of Xie to those of Aoyama “to reduce adhesive flow and bleed from label edges and maintain integrity at elevated temperatures,” as alleged by the Examiner or for any other reason. At least for these reasons, Applicants respectfully submit that Xie is not a proper reference against the claims of the present application, and Xie cannot be combined with the teachings of Aoyama in the manner proposed by the Examiner.

Applicants respectfully submit that the teachings of Aoyama are not pertinent to the presently claimed invention. The teachings of Aoyama are directed to decorative adhesive sheets. Decorative adhesive sheets are adhered to surfaces having a wood-based construction, such as a wall, a piece of furniture, a box, or the like. The patents to Ogata (US 4,911,969) and Horikiri (US 5,129,976) are concerned with the technical field of decorative sheets and demonstrate the use of decorative sheets. These patents are cited for the Examiner’s information.

The presently claimed invention is not directed to the field of decorative sheets. In particular, the pressure-sensitive adhesive sheet of the presently claimed invention is exposed to high temperatures (i.e., 80°C, 100°C, and 120°C) after having been adhered on the adherent (Spec. p. 4, ll. 15-22; Examples). If the decorative adhesive sheet, such as proposed by Aoyama, is exposed to such high temperature, the underlying adherent, such as that having a wood-based construction, would be destroyed. Since decorative sheets are not intended or designed to be used in connection with or under high temperature, and since the teachings of Aoyama are concerned with such decorative sheets, Applicants respectfully submit that the teachings of Aoyama are not necessarily pertinent to the presently claimed invention. In addition, these teachings should not be combined with other references to arrive at the presently claimed invention, because the temperature requirements or properties of the presently claimed invention would destroy the essence of the invention proposed by Aoyama.

Furthermore, the teachings of Aoyama do not disclose or suggest the presently claimed diameter of the through holes at the pressure-sensitive adhesive sheet front surface of not more than 40 μm and which holes size cannot be seen with the naked eye.

In summary, Aoyama does not disclose or suggest a pressure-sensitive adhesive layer, *inter alia*, having a storage modulus T_{\max} (wherein $20\text{ }^{\circ}\text{C} \leq T_{\max} \leq 130\text{ }^{\circ}\text{C}$) of not less than 4.5×10^3 Pa, and a loss tangent at T_{\max} of not more than 0.78, as presently claimed and as admitted by the Examiner. The teachings of Aoyama and Xie are not pertinent to the presently claimed invention because they are concerned with fields of invention different from that presently claimed. Still further, there is no reason for one of ordinary skill in the art to combine the teachings of Aoyama and Xie, because such a combination of teachings would destroy the invention of Aoyama and/or Xie. Finally, the teachings of Aoyama and Xie do not disclose or suggest the diameter of the through holes at the pressure-sensitive adhesive sheet front surface, which is not more than $40\text{ }\mu\text{m}$, as presently claimed. Therefore, as the Examiner has failed to present a *prima facie* case of obviousness, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1 and 2 under 35 U.S.C. §103(a).

Claim 3 Rejection – 35 U.S.C. § 103(a)

The Examiner rejected claim 3 under 35 U.S.C. §103(a) as being unpatentable over Aoyama in view of Xie in further view of Andriash (US

5,679,435). Applicants respectfully request that this rejection be withdrawn for the following reasons.

Applicants' claim 3 requires that the through holes comprise laser process through holes. Claim 3 is patently distinguishable from the teachings of Aoyama and Xie for the reasons set forth above for claims 1 and 2. The teachings of Andriash do not cure or rectify the previously mentioned deficiencies in the teachings of Aoyama and Xie. Furthermore, the diameter of the through holes in Andriash is 0.78 mm to 6.36 mm (= 780 μ m to 6360 μ m) (col. 5, line 45), which is out of the range of the Applicants' claims.

At least for these reasons, Applicants respectfully request that the Examiner reconsider and withdraw this rejection of claim 3.

New claims 4 & 5

New claims 4 and 5 further define the pressure-sensitive adhesive sheets of claims 1 and 2, wherein the diameter of the through holes decreases gradually from the pressure-sensitive adhesive surface to the pressure-sensitive adhesive sheet front surface. Support for the new claims can be found in Applicants' specification on pg. 11, lines 5 – 7.

The teachings of Aoyama do not disclose that the diameter of the through holes decreases gradually from the pressure-sensitive adhesive surface to the

pressure-sensitive adhesive sheet front surface, as presently claimed. Neither Xie nor Andriash cure or rectify this deficiency in the teachings of Aoyama. For example, Xie and Andriash also do not disclose that the diameter of the through holes decreases gradually from the pressure-sensitive adhesive surface to the pressure-sensitive adhesive sheet front surface. In Andriash, the through holes can be made with conventional dyes (col. 5, ll. 32 – 33). If conventional dyes are used, the diameter of the through holes of the pressure-sensitive adhesive sheet and a diameter of the pressure-sensitive adhesive sheet front surface should be the same. Therefore, the through holes cannot be tapered, as required in the present claims.

At least for the foregoing reasons, Applicants respectfully submit that the inventions defined in claims 4 and 5 are patently distinguishable from the teachings of Aoyama, Xie, and/or Andriash. Therefore, Applicants respectfully request that the Examiner allow claims 4 and 5.

Conclusion

Applicants respectfully submit that, as described above, the cited prior art does not show or suggest the combination of features recited in the claims. Applicants also respectfully submit that there is no reason for one of ordinary skill

in the art to combine the teachings of the cited prior art in a manner that would result in the combination of features as presently claimed.

In view of the foregoing, the Applicants respectfully submit that this application is in condition for allowance. A timely notice to that effect is respectfully requested. If questions relating to patentability remain, the Examiner is invited to contact the undersigned by telephone.

If there are any problems with the payment of fees, please charge any underpayments and credit any overpayments to Deposit Account No. 50-1147.

Respectfully submitted,

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